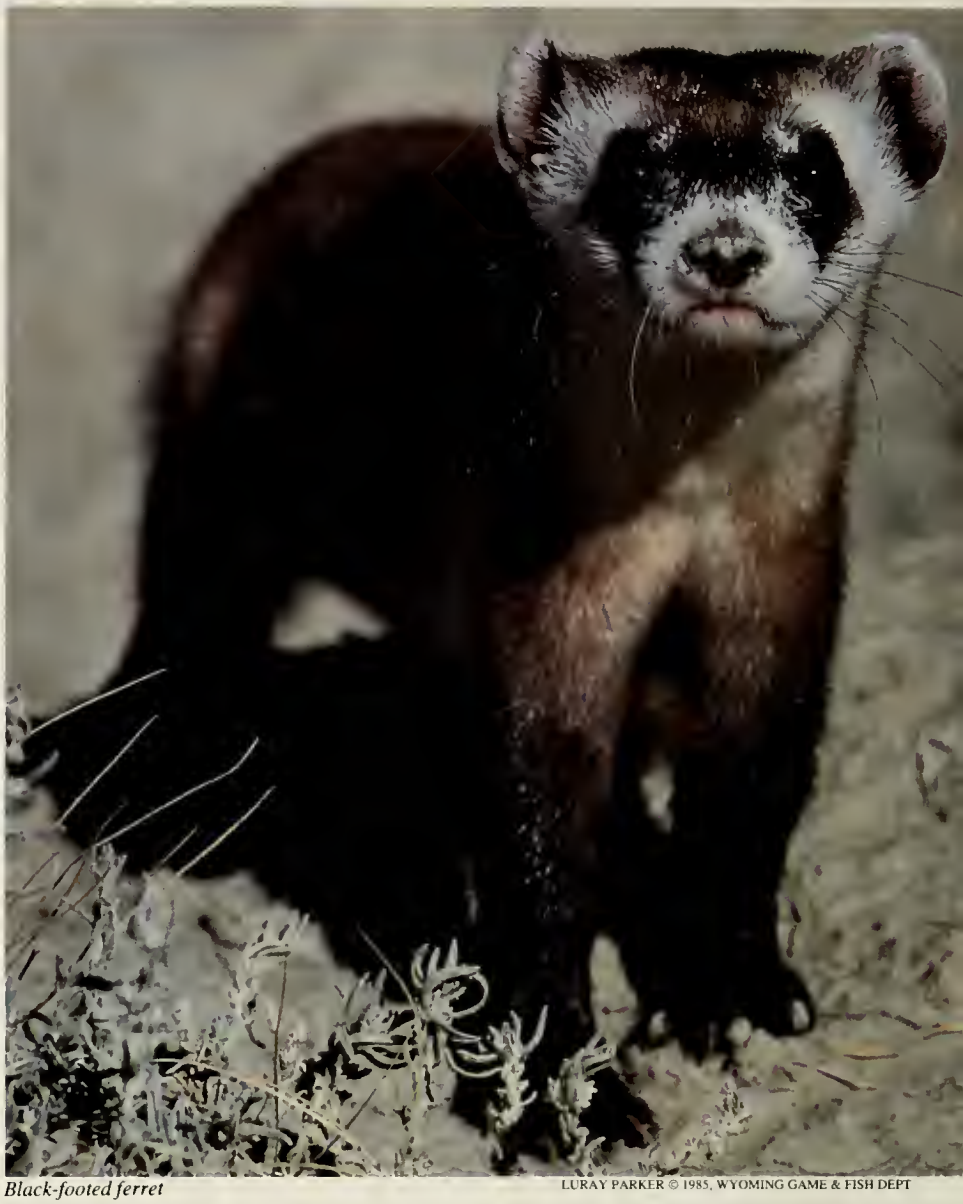
September/October 1992 $2.00

MONTANA OUTDOORS

Our Point of View



Black-footed ferret

LURAY PARKER © 1985, WYOMING GAME & FISH DEPT

Endangered species. Few words ignite such emotion and polarization. Reams of rhetoric debate grizzly bears, federal legislation, wolves, states' rights, private property rights, and even black-footed ferrets. Such interchange is part of daily conversation under our Big Sky.

By its very nature, the Endangered Species Act is heralded by conservation causes as the single most important piece of environmental legislation ever enacted. Worldwide, in fact, it is deemed a role model.

Then why all the fuss?

Here in Montana, the controversy swirling around implementation of the act centers on our state's ability to manage its natural resources in a manner consistent with tradition, economic viability, conservation ethics, and the intrinsic value of an individual species. There are as many opinions as there are Montanans.

As professional natural resource managers, we recognize the value of the act and the statement it makes. However, this agency and the state of Montana do not believe this measure is a perfect piece of legislation. We seek to increase federal funding to adequately manage these species; we seek to increase the state's role and authority in managing and recovering endangered species; we seek to more clearly delineate the differences between endangered and threatened classifications; and we seek to develop incentives to recover species, expand their range, and prevent them from becoming listed in the first place. Working to strengthen the act in these ways and to increase public acceptance of it certainly is a worthwhile goal for all of us.

The Endangered Species Act should be viewed like the species it strives to protect: These species are part of a dynamic, changing biological community. The act should not be a static, rigid piece of legislation. It should embody the flexibility to allow for recovery and protection of the species it enumerates.

History has proved state wildlife agencies' ability to manage and improve the status of individual species. We need only look to our prairies and observe our recovered antelope populations, to our mountains and observe our recovered grizzly bear populations, to our woodlands and observe our white-tailed deer and wild turkey populations, to understand that state fish and wildlife agencies were involved in the recovery of truly endangered species long before the act was initiated.

The Endangered Species Act as it is now written restricts the states' ability to provide the resources they have available for species recovery.

States need a much bigger role in the act. We seek your input and support as we try to make that role a reality.

K.L. Cool
Director
Montana Department of Fish, Wildlife & Parks

MICHAEL & PATSY FRIBLEY

The American avocet is only one of a plethora of bird species up for the viewing at Freezout Lake Wildlife Management Area (page 27).

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Covers—"Bird Hunter's Autumn " would be an appropriate enough title for **Ben O. Williams'** front cover shot. It's also the title of the photo essay (page 15) he put together for this issue. We think you'll agree that his words and pictures weave together the magic that is birds, dogs, colors, sky, and the lure of autumn days afield. This issue's back cover features a poster designed by Livingston artist **Robert Spannring** especially for the soon-to-be-released department film, "Three Men, Three Rivers." Numbered and signed copies are available through the Wade Gallery, 116 North Main; Livingston, MT 59047.

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Journal Entries

First encounter. April 1971

The Middle Geyser Basin of Yellowstone National Park. A spring backpacking trip. Cool, calm early morning. Steam and fog generated by the thermal pools hanging heavy. A loud, haunting, unknown call from an adjacent meadow. So eerie in the surreal setting. Then a series of calls made in unison. What the heck is it? A silent approach through the mist to the edge of the meadow. More calls focus our attention to the far side.

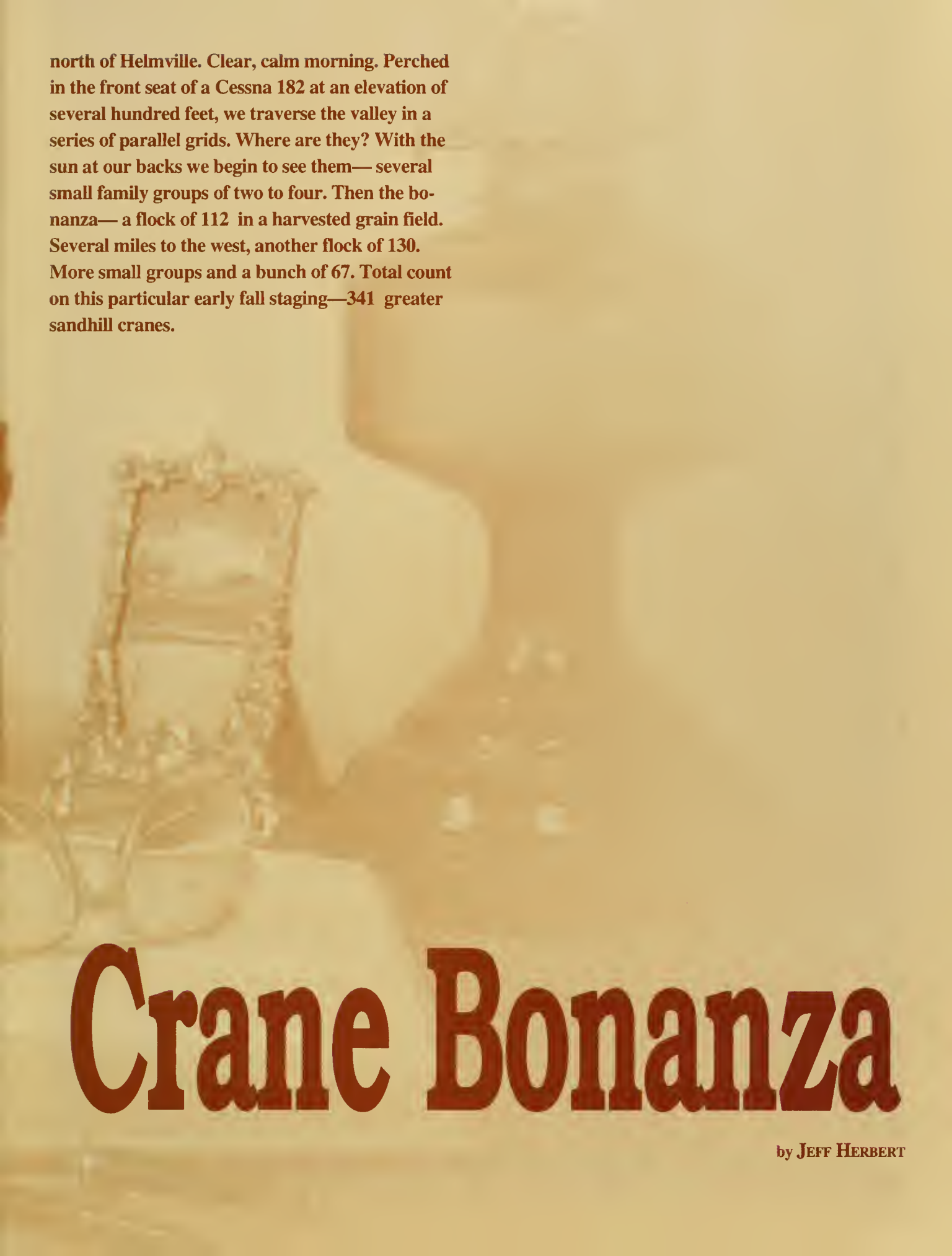
Two wildlife students shake their heads in disbelief. We see two long-legged critters hopping about in a disjointed way, wings extended for good measure during the jumps. Heads tilted, then jerked back and forth, as if mechanical action is required to get the strange yodeling call out of their elongated bodies. Courting sandhill cranes!

Most recent encounter. September 1991

The upper reaches of the Blackfoot River Valley

TOM WARREN

north of Helmville. Clear, calm morning. Perched in the front seat of a Cessna 182 at an elevation of several hundred feet, we traverse the valley in a series of parallel grids. Where are they? With the sun at our backs we begin to see them— several small family groups of two to four. Then the bonanza— a flock of 112 in a harvested grain field. Several miles to the west, another flock of 130. More small groups and a bunch of 67. Total count on this particular early fall staging—341 greater sandhill cranes.



Crane Bonanza

by Jeff Herbert

A Biological Sketch

Sandhill cranes (*Grus canadensis*) are found primarily in North America, although a few nest along the coast of Siberia and in Cuba. There are four populations of greater sandhill cranes: the Eastern, Rocky Mountain, Lower Colorado River Valley, and the Central Valley. In addition, there are several populations of smaller cranes. The most abundant of the smaller subspecies are the lessers and the Canadians and together they comprise the Mid-continent population. The Florida, Mississippi, and Cuban sandhill cranes are listed as threatened species.

Montana hosts two populations of sandhill cranes: (1) Lessers and Canadians of the Mid-continent population migrate through eastern Montana on their way from their breeding grounds in Alaska and Canada to their wintering areas in Texas, New Mexico, and Mexico. This population is considered stable and numbers approximately 500,000 cranes. (2) The other population found in Montana is the Rocky Mountain population of greater sandhill cranes. Their overall breeding range extends from northwestern Colorado through northeastern Utah, western Wyoming, eastern Idaho, western and south central Montana, and southwestern Alberta. Most of these cranes winter in New Mexico. Biologists estimate this population of greater sandhill cranes at approximately 20,000 birds.

"All sandhill cranes begin to concentrate before migration, a phenomenon called 'staging.' Montana's largest staging area is along the Beaverhead River between Dillon and Twin Bridges where biologists counted over 2,000 cranes in September 1991."

Greater sandhill cranes are impressive, standing over three feet tall. Adults are gray-brown with dark wing tips and striking red crowns. Juveniles are rusty brown and lack the red plumage on the crown. During fall, presence of the red crown distinguishes adults from the young .

In flight, sandhill cranes can be separated from another look-alike species, the great blue heron, by their profile. Cranes fly with their heads and necks outstretched, while the great blue heron in flight has its neck folded into an S curve. The only other similar species in Montana is the whooping crane which is much more rare. Adult whoopers are white with black wing tips.

Sandhill cranes are long-lived birds. In the wild some individuals live longer than 20 years. They generally begin breeding at 3 years. Cranes are monogamous and mate for life but will re-mate if one of the pair dies.

Sandhill cranes generally prefer isolated river valleys, shallow marshes, wet meadows, or small islands for nesting. In Montana much of their nesting occurs at elevations above 4,000 feet. Important nesting areas include the Big Hole, Beaverhead, Jefferson, Madison, Gallatin, upper Missouri, Smith, Musselshell, Blackfoot, and Clark Fork river drainages and the Centennial Valley. Sandhill crane nests are platforms constructed with cattails, bulrush, or other vegetation in or near the water. They typically lay two eggs which are incubated for 28 to 31 days. Chicks are called "colts." The colts feed almost exclusively on insects and other small animals before they learn to fly. The diets of the adult sandhills also include some animal matter but they prefer to graze on green vegetation and cereal grains.

Groups of non-breeding cranes flock together during the summer. All sandhill cranes begin to concentrate before migration, a phenomenon called "staging." The number of cranes on staging areas increases through late summer and early fall. This behavior provides the best opportunity to census crane populations in Montana. Montana's largest staging area is along the Beaverhead River between Dillon and Twin Bridges where biologists counted over 2,000 cranes in September 1991. They counted an additional 1,280 cranes on five other staging areas in Montana, even though they were unable to survey two other important areas. The number of sandhill cranes in Montana has increased significantly over the last 20 years.

Montana cranes begin to leave the staging areas by mid-September on their migration to the southern wintering grounds. For most of these birds, the first major stopover point is the San Luis Valley in south central Colorado. This area is also a very important spring staging area as the cranes return to the north. The cranes leave the San Luis Valley by mid-November for their wintering grounds in the Rio Grande Valley of New Mexico. Some of the cranes from the Rocky Mountain population winter in southwestern New Mexico, southeastern Arizona, and northern Mexico. Some mixing of the Rocky Mountain and Mid-continent populations occurs on the wintering areas.

It is here on the winter range that the cranes must cope with some of the most severe habitat degradation problems that they face during the entire year. This is especially evident in the Middle Rio Grande Valley. Within the valley, the Bosque del Apache National Wildlife Refuge provides some very important crane habitat. However, development of new residential areas, the use of new crop rotations that have reduced the acreage of cereal grains and thus available feeding sites, a limited number of wetlands available for roosting, and the dewatering of the Rio Grande River create serious problems for the cranes.

The result is that cranes are concentrated on a shrinking habitat base during the winter. Compounding the problem in the Middle Rio Grande Valley is an increasing number of wintering snow geese that use many of the same feeding and roosting areas as the cranes. State and federal wildlife areas are managed to maximize crane use on those areas. With the number of wintering birds increasing, the resources on the management areas are eventually exhausted and the birds move onto adjacent private lands. Goose and crane feeding on nearby alfalfa fields and pastures is a serious concern to local farmers. Managers are worried about additional growth of crane and goose numbers and the risk these increases pose for significant bird losses as a result of disease.

Winter habitat in Mexico is also threatened by human development. Irrigation and drainage projects have been proposed for several very important wetland basins which are home to wintering sandhill cranes and snow geese. International support to maintain

GEORGE SCHUYLER

AL TROTH

Cranes use cattails, bulrush, or other plants to build large "platform" nests in or near the water.

AL TROTH

The chicks, or "colts," feed almost exclusively on insects and other small animals before they learn to fly.

these wetlands and their associated wildlife is needed and has been directed to the Mexican government but positive resolution of the matter is far from certain.

Population Management

The sandhill crane has been managed as an international migratory bird since the signing of the Migratory Bird Treaty Act in 1918. Recently, states in the Pacific and Central flyways and the U.S. Fish and Wildlife Service (USFWS) jointly developed the "Management Plan for the Rocky Mountain Population of Greater Sandhill Cranes."

This plan describes population goals and objectives, discusses issues of concern, and lists management strategies necessary to attain the objectives. The Rocky Mountain population objective is to maintain numbers between 18,000 and 22,000 sandhill cranes. This objective is based on the support capacities of the migration and winter habitats. The plan recognizes the diverse values of a healthy crane population. Furthermore, the plan states that while this population level will provide numerous recreational opportunities to view cranes as well as some limited hunting, it will minimize problems resulting from concentrating too many cranes into limited habitats.

Throughout the sandhill crane's range, people consider observing them an important pastime. Encouraging this activity is an objective of the management plan and should help to increase understanding of sandhill cranes and their habitat needs.

Wildlife management agencies recognize sandhill cranes as a desirable migratory game bird species. As with many other game species, it is biologically feasible to allow sport hunting of cranes without harming the population. A 1916 treaty with Canada outlawed unregulated shooting of sandhill cranes. Crane numbers at that time were very low as a result of habitat degradation and overharvest. By 1960, the number of cranes in parts of the United States and Canada had increased significantly—along with depredation complaints. Crane hunting seasons were initiated in the Central Flyway of the United States in 1960 and were legalized in Canada in 1964. Montana initiated a crane hunt in the Central Flyway portion of the state in 1972. The greater subspecies was removed from the USFWS list of rare and endangered wildlife in 1973. Hunting of the Rocky Mountain population was initiated on a limited basis in 1981 in the Pacific Flyway. These cranes are now hunted in Mexico, New Mexico, Arizona, Wyoming, and Utah.

Flyway biologists determine the number of sandhill cranes from the Rocky Mountain population that hunters can take each spring based on results of the population surveys. Fifty percent of the harvest is assigned to summering states, 40% to the winter and migration states, and the remaining 10% is used as a floating allocation. If summer or migration states do not have authorized hunting seasons for cranes, their quotas are transferred to the wintering states. In 1989 the total harvest allocation for the population was 800 cranes. Hunters took approximately 700 that year.

In February 1992, the Montana Fish, Wildlife & Parks Commission authorized a crane hunt in specific areas of the Pacific Flyway portion of the state. This September, hunting will be restricted to 80 permit holders which is expected to result in the harvest of approximately 50 cranes (Montana's allocation). Each permit holder may take one crane, with most of the hunting done over decoys or by pass shooting. Harvest information collected in other states indicates that about 50% of the permit holders will successfully kill a crane. The department will monitor hunter activity by using mandatory hunter check stations and limiting hunters to two weekend periods. Hunting will be permitted in two zones, Dillon-Twin Bridges and Warm Springs.

Although the Montana Department of Fish, Wildlife & Parks first proposed the hunt in 1990, the decision on the hunt was postponed until the department and the public had more opportunities to discuss it. Department employees made presentations to six Audubon chapters across the state, solicited public comment statewide on several occasions, and prepared an Environmental Assessment in January 1992.

Comments from the public were polarized. Those opposed to the hunt felt strongly that cranes should not be hunted. Others raised

AL TROTH

Cranes prefer isolated river valleys, shallow marshes, wet meadows, or small islands for nesting. Both males and females incubate the eggs and vigorously defend their young.

concerns over the impact of the hunt on the growth of Montana's crane population, the impact of the hunt on crop depredation losses and its effect on the migration of the cranes, and how it would affect crane-watching opportunities. Some people questioned if there were other ways to control the crane population, or if such controls were even necessary.

Those supporting the hunt argued that hunting cranes provides a unique recreational opportunity and that it was not detrimental to the crane population. In addition, landowners were interested in controlling some localized crop depredation.

The department considered these different points of view. Ultimately, long-term maintenance of the crane population is the department's goal. A second goal is to provide a variety of recreational opportunities associated with cranes. The Fish, Wildlife & Parks Commission's decision to authorize the crane hunt is compatible with these goals.

Sandhill cranes represent many different values to a diverse group of people. By providing limited sport hunting and a wide range of viewing opportunities, many of those values can be realized and enjoyed. More important, one does not exclude the other and, taken together, they can ensure a brighter future for sandhill cranes and their habitats.

Cooperative efforts to enhance wetland habitats in Montana will continue to benefit both resident and migrating cranes. These same efforts should enhance the distribution and number of breeding cranes as they expand into suitable habitats within the state. However, that growth can take place only as long as the habitats to the south are adequate to sustain them. State and federal agencies and private organizations must coordinate their efforts to protect and enhance important migration and wintering habitat for sandhill cranes. ■

Montana has had a crane hunting season in the Central Flyway portion of the state since 1972, and will allow limited hunting in parts of the Pacific Flyway this fall.

Journal Entries

Future Encounter. April 2011

Blackfoot Waterfowl Production Area, just west of the junction of Highways 200 and 141 in Powell County. Clear, calm morning. A futuristic vehicle hovers quietly in the parking area overlooking the expansive marsh. An audio recording recounts how the marsh was cooperatively restored over 20 years ago and how well the aquatic system now functions. Even though pressed for time, the occupants climb out of the vehicle and marvel at the marsh panorama before them. A pair of sandhill cranes calls in unison from the large pond below the overlook and a second pair responds from an adjacent marsh. The legacy has been perpetuated.

HAROLD UMBER

"And Maybe Most

I've always loved to hunt. I can't explain totally why, but part of what I feel I learned from my father and the fathers of my friends. With me, it's pathogenic (I'm sure my wife and boss would agree).

For those of us who hunt, countless things make our sport special: secret ridges, favorite potholes and brush piles, puppies and their training, warm tents, rifles and shotguns passed down through generations. And maybe most of all, memories.

The memories of the last three years when two of our three children hunted for the first time reaffirmed for me that many aspects of the hunt are not and cannot be appreciated by those who choose not to participate. I'm sure many who share my love of the hunt will appreciate the fondness I have for those memories, some of which follow.

Ryen, our daughter, and I started our adventure together by attending a Hunter Education class. It happened that the Depart-

# of All...Memories"

story and photos by RON AASHEIM

ment of Fish, Wildlife & Parks' landowner/sportsman coordinator and his daughter, Amber, were also attending. One of the most humorous moments in the 10-hour class was Amber's response to the question, "What are landowner/sportsman relations?" Her response, "I don't have a clue!"

Ryen and I decided antelope hunting would be a good way to start. So in mid-October of 1989, Ryen and I, and her brother, grandpa, uncle, cousin, and a friend of mine and his daughter booked two rooms in Big Timber for the night before opening day. Ryen made an exceptional shot to end her hunt early on the morning of the first day. When I asked her later what she thought, she responded, "Not much to this!" Her fondest memory: the 21-piece shrimp dinner she had the night before. Mine: the bottles of cologne and hair spray and dresser drawers full of clothes that she and her friend needed for the one-day hunt.

Next for Ryen was a deer hunt at Grandpa's. Ryen eventually shot the most accommodating three-point mule deer I've ever observed—on her seventh shot at the standing deer, she connected.

The deer hunt in Buffalo Coulee was Ryen's last, at least for now. She has new interests, and that's okay with me. Among others, I'll always carry the memory of the heaps of hair spray and cologne necessary for an antelope hunt. And I'm sure Ryen will always remember some things known only to her that made the hunt special. Who knows? Maybe if her phone ever stops ringing, she will have time to add a hunt with her dad to her schedule.

ERIK WAS NEXT, and after we completed yet another Hunter Education class, we were ready. To say the least, Erik's enthusiasm was pronounced. Like his father, he applied for *every* special permit possible.

I won't forget April 15, 1991—that's the day we started our "official" hunts together, searching for a bear in two feet of snow south of Helena. We went only because we decided that in spite of the fact that every bear in Montana was still holed up in its den, it was important to go out on the first day Erik could legally hunt. An entry Erik made in his hunting diary is forever etched in my mind, "Dad and I talked about the good times we'd had together."

Blue grouse were next. Neither of us will ever forget a ridge we dubbed Blue Grouse Ridge—the spot Erik took his first legal game.

A pheasant hunt with two friends at a secret spot near Choteau provided more memories. Erik's shriek of "I got one!" and his sprint across the stubble field to retrieve the rooster convinced me he was hooked. Probably forever.

Erik's first antelope hunt in eastern Montana was fun, but humbling. If follow-up conversations mean anything, Erik's most vivid memories had to do with the bad jokes and hunting stories that our two hunting partners shared with us in a Malta motel room. Also, the dead battery in our Blazer in the early evening and 30+ miles from Malta was a bit scary.

My most enduring impression was Erik's reaction after he excitedly approached his antelope, only to find it was not yet dead. After Erik finished it off and his emotions ebbed a bit, I asked him what he was thinking. He said simply that he felt bad for the antelope and didn't like seeing animals suffer. I told Erik he was not unlike most hunters in his compassion for animals and his interest in a quick kill. We also discussed making sure you are within range and the necessity of having your rifle sighted in properly. Finally, I told him I wouldn't have felt very good about him if he hadn't been bothered by the experience. We both agreed we would do our best to assure clean kills in the future.

Erik succeeded in living up to his promise on our next hunt; he took only one shot to bag his first deer on the lower Musselshell. The best part of that hunt for me was a comment Erik made on the way home: "I'm so glad I live in Montana, Dad. I'm never going to leave."

Gardiner, in early January, was the site of the last hunt of Erik's rookie year. He had drawn a late season elk permit. After nachos, salsa, and Coke downed while watching basketball in our motel room, we decided a quick recon trip to scout the route to our chosen, pre-dawn destination was a good idea. A good idea until Dad took a wrong turn and, for a while at least, was hopelessly lost in the famous Travertine Quarry jumble of roads. Erik's only question, "Do you know where we are, Dad?" was answered with a reassuring, "Yes, but I'm not sure I know how to get to where we want to be."

Fifteen minutes later we were rescued by distant headlights, and we returned safely to Gardiner.

The elk hunt itself will, quite possibly, never be equaled in Erik's or my hunting careers. From the time we left our vehicle until 45 minutes later when Erik shot his first elk, we were never beyond the sound, smell, or sight of elk. After a lesson in field pathology, we triumphantly headed down the mountain, elk in tow. When the elk had been loaded, Erik asked if we had a tarp to cover it. He remembered; I'd forgotten the advice I'd received in not one, but two, Hunter Education classes!

On the way home, Erik said, "You know, Dad, it just hit me—I actually got an elk!" He also said something else, "Thanks, Dad, I loved every minute of our hunt." As I told you then, Erik, so did I!

When we returned home, Erik's younger sister (a 3-year old) asked to try on Erik's orange vest. She proclaimed, "When I am a big girl, I'm going to hunt with my daddy." To say the least, I hope so. And by the way, Ryen, I'm hoping that phone does stop ringing! ■

HUNTERS HELP THOSE IN NEED

While hunters continue to be criticized by those who seek to ban hunting and challenge its historical importance to wildlife conservation, a Montana organization provides game taken by hunters to those who have trouble putting food on their tables.

That organization is Hunters Against Hunger (HAH), a Townsend-based non-profit entity which in its first year of operation provided deer and elk meat to nearly 500 Montana families.

HAH founder John Flynn, a Townsend businessman and outfitter, said recipients of last season's game definitely were in need and were appreciative of the group's efforts. Single mothers and the elderly, Flynn noted, benefited most from the surplus game donated by hunters. Although there were initial concerns that the organization might be overwhelmed with requests for game, Flynn said the union between hunters and those who would like to receive donated game has, for the most part, been a balanced one.

Helena resident Bill Spence, a long-time sportsman who donated deer and elk to two Helena families last season, called HAH "a great service" and said he looks forward to participating in the program again this fall.

One recipient, who shared in Spence's 1991 hunting success by enjoying venison dinners all fall, expressed great appreciation for the meat provided and gratitude for HAH's existence. "It's a valuable community asset," she explained, "especially for those who used to hunt but no longer are able."

Because the mission of HAH is purely to put food in the hands of those who desire it, neither HAH recipients nor donors are required to meet specific eligibility criteria, Flynn said. Lists of donor hunters and recipients are maintained by HAH. Donor hunters are asked to indicate their willingness to process the game they take. Recipients, likewise, are asked if they are financially able to pay processing costs. Although HAH welcomes calls from those Montanans and non-residents who need to leave behind unprocessed game before heading for a distant home, most game is processed by hunters before donation. Upland game birds are occasionally accepted, Flynn said, but HAH prefers to handle big game—principally deer, elk, and antelope.

Hunters Against Hunger is funded solely through annual individual ($10) and corporate ($100) memberships, plus donations. Volunteers from the Greyson Creek Meadows Recreation Association, that organization from which the HAH concept was spawned, receive calls and donations in their Townsend office. HAH membership, which totals over 150, extends from Baker, in far eastern Montana, to Missoula and Wallingford, Idaho. As the organization gains more recognition both inside and outside Montana, Flynn expects membership in HAH to increase.

HAH organizers approach the coming hunting season with high expectations of enlisting more members. Before this year's hunting season, news releases will alert hunters to the HAH program.

"Helping others and, at the same time, putting people with people—that's the beauty of this program. It's simple," Flynn said. "We in HAH prefer face-to-face, hunter-to-recipient contact, helping both resource conservation and the relationship between the donor and the donee.

"Members are excited," Flynn said, as HAH heads into its second season of good will. "And it's gratifying to realize that so many hunters will, once again, be reaching out to help others in need."

—Roberta Opel, Front Desk, Helena

• *To obtain more information about the program, write: Hunters Against Hunger, Inc., P.O. Box 463; Townsend, MT 59644 (406/266-4418).*—Ed.

MONTANA STATE PARKS CALENDAR

SEPTEMBER

20-26—Native American Awareness Week, Chief Plenty Coups State Park

Various activities for all ages focusing on Native American culture, history, and dress.

OCTOBER

Off-season camping fees now in effect

Cost is $4 per night with a State Park Passport.

NOVEMBER

Eagle watch, Canyon Ferry State Park, Riverside

Mid-November through mid-December, view the majestic bald eagles as they flock to this area to feed on spawning kokanee salmon.

Habitat Montana

Montana is home to a rich diversity of wildlife species, each with its own habitat requirements. We often face an important question: How do we care for wildlife and assure that adequate habitat will remain in the future to support our wildlife heritage?

This is a critical time for Montana's habitat programs. Habitat protection continues to be fundamental to the mission and goals of the Department of Fish, Wildlife & Parks. Most people understand that significant benefits have been accomplished for wildlife and for Montana through acquisition and development of wildlife management areas. At the same time, some people are concerned that department land purchases might take land out of agricultural production, reduce tax revenues to the affected county, and result in increased game damage to the crops of neighboring landowners.

FW&P's authority to buy land was the focus of some debate during the 1991 legislative session. In response, the Legislature passed Senate Bill 252 which directed FW&P to: (1) conduct an objective and comprehensive evaluation of its wildlife habitat programs; (2) develop a comprehensive plan for a permanent wildlife habitat protection program; (3) ensure public participation in development of the comprehensive plan; and (4) report results of the study to the 1993 Legislature.

FW&P is calling this evaluation "Habitat Montana." The department has employed Canyon Consulting, a Missoula firm, to help determine what its various customers believe about the future for wildlife and wildlife habitat management in Montana. Canyon has completed a series of nine focus group meetings around the state. A comprehensive survey was mailed to over 3,500 Montanans who reflect the broad spectrum of those interested in FW&P's habitat programs.

The survey gauges people's reaction to the idea that an effective habitat program must satisfy three basic needs:

1. Habitat protection must respect the best of Montana's traditions—our outdoor way of life, our family orientation, our respect for neighbors, our commitment to the future, and our concern for the land.

2. Habitat protection must be sensitive to factors that affect state and local economies.

3. Habitat protection must be the result of a basic commitment to conservation.

FW&P has acquired about 260,000 acres that are now wildlife management areas and manages an additional 93,000 acres with lease agreements. In addition to their primary purpose (to provide wildlife with habitat that meets their needs), these lands provide some grazing for domestic livestock. Share-crop agreements have been established on 22 areas. Approximately 80,000 acres of upland game bird habitat has been enhanced through share-crop programs. The survey included questions to determine respondents' familiarity with these uses of FW&P-administered lands, as well as how people use lands managed by FW&P.

As an alternative to land purchase, the department is also authorized to negotiate leases and conservation easements. Habitat Montana includes an evaluation of projects that would protect and enhance wildlife habitats through cooperative management agreements. The feasibility of projects that would promote land stewardship, benefit wildlife, and still provide for agricultural production also will be assessed.

In addition to evaluating methods for protecting habitat, FW&P recognizes the need to improve the way priorities are set and the way habitat protection decisions are made. The survey will provide information about appropriate guidelines to define statewide priorities and a consistent process for project nomination, evaluation, and approval.

Successful wildlife conservation is more than recognition of what already has been accomplished—it is understanding our obligations to the future. Protection of the land and the land's capability to produce wildlife will be an important, ongoing responsibility.—*John Mundinger, special assistant to the director*

George Grant Receives Conservation Award

George Grant, Butte, who has fought streamside erosion and other threats to the Big Hole River for more than 60 years, is one of 25 individuals and organizations honored by the Chevron Conservation Awards Program. Now in its 38th year and the oldest privately sponsored program of its kind, the award recognizes outstanding individuals and organizations who serve as environmental role models.

Grant founded the Big Hole River Foundation to maintain a high-quality,

George Grant

wild trout river for present and future generations. His work also is underscored in an upcoming Department of Fish, Wildlife & Parks documentary, "Three Men—Three Rivers."

"Throughout this country, there are people who, through education, action, and, often, great personal sacrifice, make it a point to be part of the conservation solution," said Ed Zern, founder and director of the Chevron Conservation Awards Program. "Their work betters everyone's world and sets the stage for continuing improvement."

Your Dollars Improve Fishing

Anglers financially help many fisheries programs in Montana every time they purchase a fishing rod, reel, tackle box, lure, bait, fishing line, electronic fish finder, boat gasoline, or any product associated with sport fishing.

In 1950, the U.S. Congress passed a bill creating the Sport Fish Restoration Act; it placed a 10% excise tax on certain fishing equipment. States like Montana receive money from this excise tax to improve sport fisheries. (This money is in addition to license fees received by the department.) The excise tax is included in the price of fishing products--sporting goods manufacturers pay the tax, then pass it to the consumer.

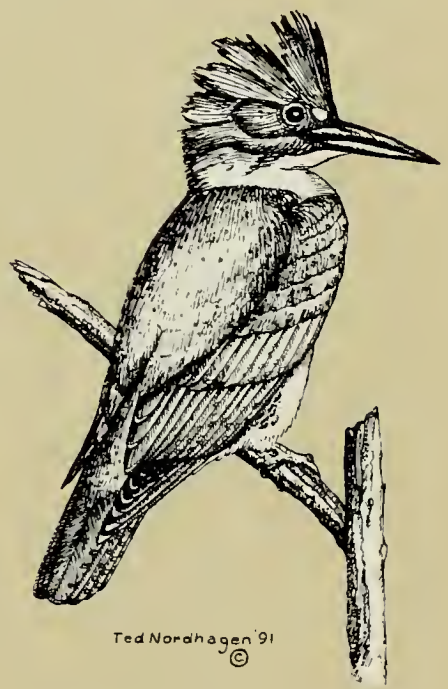
Each year, the tax is collected by the U.S. Treasury Department, totaled, and then transferred to the U.S. Fish and Wildlife Service (USFWS). The USFWS apportions the funds to the states based on a system that combines the state's area and fishing license sales.

In 1984, conservation and sporting groups, tackle manufacturers, and others again supported an amendment to the act to increase the variety of fishing products taxed. Congress passed the bill, and more funding for sport fishing became available to all states. Before 1984, FW&P received about $745,000 annually. Now Montana receives more than $4.5 million per year.

How has your money been spent in Montana to improve fishing?

- Annually, over $2 million is dedicated to fisheries survey and inventory work. These efforts include fish population monitoring, stream protection, planning work with public involvement, and fishery and habitat enhancement.
- So far, more than $1.3 million has been spent on the renovation of 68 sites in the Fishing Access System.
- Montana hatchery fry and fingerling stocking programs are also supported by the money ($1 million per year). The Lewistown, Miles City, and Anaconda hatchery facilities were reconstructed with these funds. More than 24 million warm- and coldwater fish are now annually produced by these improved hatchery systems.
- Boaters also benefit. The act mandates that states spend 10% of the funds to develop and maintain motorboat facilities. During the last five years, motorboat facilities have been funded at 22 fishing access sites and water-based parks at a cost of $2.2 million. These efforts will continue.

Each time you purchase that rod, reel, or other equipment, part of your money is helping the conservation of sport fisheries in Montana. You may not notice it at the check-out counter, but you will on the water.—*Bruce Rehwinkel, assistant chief, Management Bureau, Fisheries Division, Helena*



Where Can I Find That Bird?

The long awaited, newly revised, fourth edition of P.D. Skaar's "Montana Bird Distribution" is available. This 120-page book summarizes information on where various birds are found in Montana; this edition contains bird sightings through November 1991.

It is a useful reference because it lists every species ever observed in the state and presents maps that show breeding and wintering areas for each bird. It also indicates the threatened, endangered, and sensitive species and which birds are "neotropical migrants" (those most likely to be threatened by habitat destruction in Central and South America).

"Montana Bird Distribution" was first published by Dr. Skaar in 1975. The fourth edition is a cooperative project of the Montana Audubon Council, the

Montana Natural Heritage Program, and funds from the nongame tax check-off in the Department of Fish, Wildlife & Parks.

Cost of the book is $7, including postage. To reserve a copy, send your payment to the Montana Natural Heritage Program, Montana State Library, 1515 East Sixth Avenue; Helena, MT 59620.—*Janet Ellis, program director, Montana Audubon Council*

Cooperative Solutions

In 1991, the State Park Futures Committee was directed to examine the state of the state parks system. Among other things, the committee found a financially strapped parks system. The Montana State Parks System does not have the resources to adequately operate and maintain its almost 60 sites.

One management action that the Department of Fish, Wildlife & Parks has been pursuing is cooperation with other agencies and groups in taking over operation of certain state parks. In 1991, a private group, the Friends of Les Mason, was formed to manage Les Mason Park on Whitefish Lake. In the Gallatin Valley, a group cooperating with the department and the city of Bozeman has taken over operation of East Gallatin Park.

The Parks Division is pursuing other partnerships, including a three-way partnership at Canyon Ferry State Park with the Bureau of Reclamation and the Bureau of Land Management. At Holter Lake, the department operates two sites, Log Gulch and Departure Point. The Bureau of Land Management operates sites in the same vicinity, at Holter and at various points along the Missouri River corridor. "It seems a little redundant for each agency to send a maintenance crew to adjacent sites," said Doug Monger, assistant administrator of the Parks Division in Helena. "With this consolidation of area management, money will be saved and the public will be better served," Monger added. Ultimately, title to the FW&P lands will be turned over to the BLM. This management switch will save the parks system about $25,000 per year, savings that will be used to help maintain other state parks across Montana.

"Three Men—Three Rivers" Available In October

The Department of Fish, Wildlife & Parks will release its new film, "Three Men—Three Rivers" October 1. The 30-minute documentary explores the lives of three men and their influence on three rivers: George Grant, the Big Hole River; Bud Lilly, the Madison; and Dan Bailey, the Yellowstone.

The film was photographed and edited by Mike Gurnett, head of the department's Film/Video Production Unit. It was written by Marshall Riggan, who also wrote "The Bridge," "The Last Parable," and "The Full Circle," award-winning films previously produced by the department.

The film probes people's perceptions of three of the finest wild trout rivers in the world. To fully appreciate the opportunities these three rivers and their wild trout offer, one must also understand the commitment of these three men and what their legacy means to everyone who appreciates the value of wild rivers.

Livingston artist Robert Spannring has designed a poster (see back cover) especially for the film. Numbered and signed copies are available through the Wade Gallery, 116 North Main; Livingston, MT 59047.

Loan copies of the film are available from the Film/Video Production Unit, 930 Custer Avenue West; Helena, MT 59620 (406/444-2426) or from regional department headquarters. VHS and l6mm copies will also be for sale through the above address.

Banquet Highlights Hunting Heritage Week

Montana hunters will gather at a banquet in Helena on Saturday, September 26, to cap a week-long observance of Hunting Heritage Week. The week's activities will include numerous local events across Montana.

Spearheaded by the Hunter's Alliance, a Stevensville-based group, a coalition of like-minded groups will sponsor this year's banquet. Montana's hunting heritage will be highlighted by establishment of a "Montana Hunting Hall of Fame," with categories in conservation, hunting achievement, and life-time contribution to hunting or wildlife conservation. In addition, special recognition of youth efforts in the same fields will be realized by the naming of a "Montana Young Hunter of the Year" from nominees across the state.

For further information, contact: Dale Burk, Hunter's Alliance, 205 Main Street; Stevensville, MT 59870 (406/777-2521).

Even Old Traditions Need New Beginnings

The theme for this year's observance of National Hunting and Fishing Day on Saturday, September 26, signals a major shift in focus for this highly successful event. Prior observances have featured open houses at clubs and displays at shopping centers; the new theme leans more toward a one-on-one approach and emphasizes youth involvement.

This year's theme, "Even Old Traditions Need New Beginnings...Start Tomorrow's Sportsmen Today," calls on individual clubs to plan special programs to introduce today's youngsters to their American sporting heritage.

From the beginning, when National Hunting and Fishing Day was established by Congress in 1971, it has honored sportsmen and -women for their historic and continuing contributions to wildlife conservation.

Over its 20-year history, those dedicated to sport hunting and fishing—including manufacturers, state and federal wildlife agencies, sporting goods retailers, sportsmen's and -women's groups, and individual hunters and anglers—have played an important role in observing the event. Local gun clubs and other outdoor sporting organizations conduct open houses with demonstrations, exhibits, and special events.

State and federal conservation agencies often open their facilities to the public. Many sponsor weekend-long celebrations featuring displays, demonstrations, game-calling contests, wildlife art exhibits, and more. This year's National Hunting and Fishing Day coincides with Montana's Hunting Heritage Week banquet.—*National Shooting Sports Foundation*

Bird Hunter's Autumn

photo essay by Ben O. Williams

September.

It could be anywhere in eastern Montana.

The season is open...the birds are there.

They could be Huns...

...or they could be sharptails.

The dogs know, but they're not saying.

September's sage grouse time, too.

You think you're ready,
but are you REALLY ready?

The sage, the birds,
and the sky are all
part of it.

It's hot, dirty work, but
someone's gotta do it.

You blink your eyes, and it's October...autumn colors and ringnecks to match.

...you have three seconds, maybe four.

...better give him a pat. He deserves to feel good, and so do you. ■

BEN O. WILLIAMS

THE BIGHORNS
THAT BROKE ALL THE RULES

by KEVIN COATES

The summer of 1985 was hot in the Pryor Mountains of south central Montana. Beads of perspiration formed on my forehead as I peered through high-powered binoculars at a bighorn sheep traversing the 1,000-foot cliff opposite my vantage point at Devil Canyon Overlook. I could see that whoever named it Devil Canyon must have been trying to climb out of it!

In fact, one of the reasons I was watching this ewe was that I, too, was looking for a way around the huge cliff that loomed ominously in my view. I knew, or thought I knew, that if I waited patiently the ewe would reveal the secret passage from the talus slopes emptying into the reservoir below.

As I fine-tuned the focus on my binoculars, what I saw made me doubt my eyes. It happened when the ewe reached a dead end in the foot-wide ledge she was nimbly walking along. She stopped, casually looked from side to side, then simply jumped into mid-air. There really wasn't anything for her to get a foothold on, but that didn't slow her down—in fact, it forced her to speed up. Surging forward, her front legs magically clung to something, and her rear legs

R.E. ILG

Because of its dry climate, shallow soils, and scarcity of grasses, Bighorn Canyon is an unlikely place for Rocky Mountain bighorn sheep. Yet, a herd that began with a few wandering nomads in 1975 has grown to an established population of more than 130.

followed in a rapid-pumping motion that launched her upward.

It was as if someone had taken a motion picture of a bighorn running at full speed along a stretch of flat bedrock and then turned the projector to a 90-degree angle as a joke on the audience. Well, so much for this ewe showing me the easy way around the cliff. I shifted my binoculars back to the rugged talus shoreline and abrupt ledges being used as lambing and maternity areas by other bighorns. Aside from the immediate task of searching for the "easy passage" around the cliff, I was also trying to determine exactly how many bighorns were occupying Bighorn Canyon and the rugged Pryor Mountain Wild Horse Range.

BIGHORN CANYON IS A MAJESTIC PLACE; the red-desert hues of its 1,000-foot cliffs contrast sharply against the blue-gray backdrop of the Pryor Mountains. The 190-square-mile Bighorn Canyon National Recreation Area includes Bighorn Lake, a 71-mile-long lake extending northward from the Bighorn Basin in northeastern Wyoming to the Dryhead country of south central Montana. Portions of the recreation area were federally designated as the nation's first wild horse range in the early 1970s. Managed by the Bureau of Land Management (BLM), the Pryor Mountain Wild Horse Range is home to approximately 120 wild horses.

The bighorn sheep occupying Bighorn Canyon in 1985 were the offspring of a few pioneers that migrated there more than a decade earlier, following a transplant into the northern Bighorn Mountains by the Wyoming Game and Fish Department. No one knew much about this band of nomads, but a growing number of people wanted to know more. National Park Service (NPS) biologists believed that six to nine sheep had moved down Devil Canyon during the winter of 1974-75 and crossed Bighorn Lake on the ice. They also believed the small herd was growing. Some biologists found it difficult to believe that any self-respecting Rocky Mountain bighorn sheep would migrate to this desertlike habitat, let alone establish a growing herd. That was in summer of 1985, and after eight weeks of dawn-to-dusk tracking, I could verify the presence of only 23 ewes, rams, and lambs in the area. I began to wonder if those cynical biologists were right after all. Maybe the population didn't have much chance for survival if there were so few sheep after 10 years' time. However, after doing some mathematics, I quickly realized that if the population had indeed started from a half-dozen sheep in 1975, reproduction and survival must have been extremely good for the population to number 23 individuals by 1985.

While working on this project as a

In places where forage and water are limited, wild horses are known to displace bighorn sheep. But in Bighorn Canyon, sheep and horses appear to coexist peacefully. Part of the reason is that the sheep have adapted to the scarcity of grasses by including more shrubs and woody plants in their diet.

graduate student at New Mexico State University from 1985 through 1989, I had the pleasure of seeing the population grow from a few wandering nomads to an established herd of more than 100 animals. The population's success was somewhat of a mystery because several unsuccessful transplants had been made in the area during the early 1970s. In 1972 and 1973 the Montana Department of Fish, Wildlife & Parks (FW&P) released sheep several times in the Pryor Mountains, in typical bighorn habitat with bunchgrasses, subalpine meadows, and riparian areas. However, few of these bighorns remained in the area and there was essentially no reproduction.

In 1973 and 1974, the Wyoming Game and Fish Department transplanted 39 sheep from the Whiskey Basin herd near Dubois, Wyoming, into the head of Devil Canyon. This also looked like good habitat, but there was little reproduction and the sheep dispersed widely from the area. We know that the sheep now at Bighorn Canyon came from the Wyoming transplant because of the distinctive neckbands and ear tags used to mark those animals.

Compared with the subalpine meadows and grasslands typically thought of as bighorn sheep habitat, Bighorn Canyon is an unlikely place. The Pryors are desertlike mountains, receiving less than 10 inches of annual precipitation at the southern end of the range. Soils are shallow, some might even say scarce. Botanists characterize the vegetation as desert-shrub woodland, with grasses making up less than 5% of the vegetative community. That is to say that grasses, the principal component of bighorn sheep diets in the region, are in short supply.

In addition to the vegetation, another potential drawback to Bighorn Canyon as sheep habitat is the presence of 120 wild horses on the 67-square-mile Pryor Mountain Wild Horse Range. Where forage and water are limited, wild horses are known to displace bighorn sheep and cause their populations to decline. In the desert Southwest wild horses and burros tend to displace bighorn ewes from waterholes, and disrupt lambing and maternity areas. At Bighorn Canyon the wild horses are probably superior competitors for the limited and patchy supply of grasses because they are more mobile than the bighorns, which are better adapted to climbing.

This study was conducted cooperatively with support and direction from six state and federal agencies, including the Montana Department of Fish, Wildlife & Parks and the National Park Service. The objectives of the study were identified by representatives from all the agencies in an effort to establish an Interagency Management Plan for bighorn sheep in the Pryor Mountains. To identify any factors that might potentially limit the growth of this small population, I analyzed bighorn food habits, lamb production, mortality, survival, dietary overlap, and interaction with wild horses. I soon discovered that many of the "rules" about what bighorn sheep are supposed to do and not do did not apply to the Pryor Mountain herd.

I ALREADY KNEW THAT BIGHORN EWES AND RAMS live separately during most of the year, only getting together for the breeding season. By living separately rams avoid competition with their mates and offspring, thereby increasing the health of the ewes and lambs. In the Pryor Mountains, ewes live close to Bighorn Canyon, occupying the sheer cliff walls and ridges running between the canyon and the mountains.

Relatively few horses are found in the broken country that ewes occupy, since there are no permanent water sources other than the reservoir in the 15-mile stretch between Layout Creek and Horseshoe Bend. Fortunately for the ewes, horses can't climb cliffs so there is reduced competition for food.

However, rams and horses do use the same habitat. Except during the breeding season, rams occupy the side drainages close to the Pryors where it's cooler in the summer. When it's dry as a bone near the Canyon, there's usually some water

and grasses in the shaded drainages of the foothills. Surprisingly, my data showed that even though they use the same areas, rams and horses coexist peacefully in the Pryors. Horses did not displace rams from preferred feeding areas and in many cases I observed rams in close proximity to horses. Some rams followed dominant stallions and their mares to areas that supported higher densities of grasses but that were normally avoided by bighorns. These rams also appeared to benefit from their association with the highly vigilant horses, which were always on the watch for danger.

In addition to spatial competition, I was concerned with dietary competition, since both species normally feed predominantly on grasses that are in limited supply at Bighorn Canyon. The few grasses present in the study area included wheatgrass, junegrass, Idaho fescue, and sand dropseed. There would be little for bighorns and horses to eat if they were both to exist solely on grasses. But the bighorns adapted to the scarcity of grasses by including shrubs and woody plants in their diet. In fact, over half of the ewes' diet was composed of shrubs, while the horses ate grasses almost exclusively.

In Bighorn Canyon, sheep use grasses most heavily during summer greenup and least frequently during winter, when shrubs constitute the bulk of the diet. Key shrubs in the annual diet include soapweed, curlleaf mountain mahogany, and shadscale. During the study, shrubs, grasses, and forbs made up 46%, 40%, and 14% of the annual bighorn diet, respectively.

I analyzed protein content of summer diets to determine if browse supplied adequate protein to maintain pregnancy and lactation. Domestic ewes require 8.4% and 7.6% crude protein in summer and winter diets, respectively, to support pregnancy and lactation. My nutritional tests demonstrated that the shrub diet utilized by ewes in Bighorn Canyon contained 8.7% crude protein, enough to successfully support pregnancy and lactation.

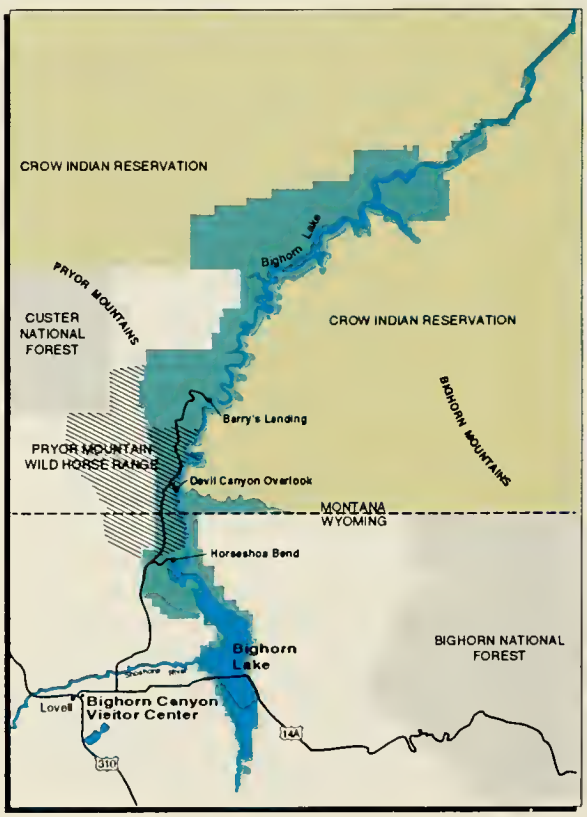
During my study, an average of 90% of ewes greater than 2 years of age lambed successfully each year. Lamb survival was high, with 75% making it through the first winter. As a result, recruitment of adults to the population was high. Typically, once a bighorn survives its first winter, it has a good chance of living to an old age. In the wild, bighorns can survive and reproduce through 10 years of age, but vigorously growing populations are typified by a high proportion of young animals. The growth rate of the herd at Bighorn Canyon was as good as the historical-maximum rate reported from Wild Horse Island in western Montana, a prime bighorn sheep range. Few people believed that a bighorn sheep population occupying a desert woodland—especially one in competition with a wild horse herd—could have such a rapid growth rate.

By 1990, the half-dozen nomads that wandered into Bighorn Canyon in 1975 had grown to an established population of about 130. Hunting permits were issued for the first time in 1990, and two mature rams were taken. The Bighorn Canyon herd has been an enormous success story for the sportsmen and –women of Montana, as well as for the National Park Service, which sought to re-establish bighorn sheep in an ancestral range.

However, controversy may be on the horizon between agencies charged with management of bighorn sheep and agencies interested in protecting wild horses. Some people are concerned that bighorn sheep might contribute to deteriorating range conditions in the Pryors. Another study is in progress to better determine how sheep, horses, and mule deer populations interact, and how those interactions will affect habitat in the Pryors. If the bighorn population were to continue growing at its rapid early rate—which remains to be seen—herd size could exceed 300 animals in 10 years, and sheep could potentially inhabit the Pryors from northern Wyoming to the Crow Indian Reservation in south central Montana.

No one can say with certainty what the future holds for bighorn sheep at Bighorn Canyon. The rapid population growth may not continue, but then again, who knows? After all...they are the bighorns that broke all the rules! ■

• *This study was cooperatively funded by the National Park Service, the Montana Department of Fish, Wildlife & Parks, the Wyoming Game and Fish Department, the Bureau of Land Management, the U.S. Forest Service, New Mexico State University, and Safari Club International.*



BIGHORN CANYON NATIONAL RECREATION AREA

"I Heard the Owl Call My Name"

by Jim Posewitz
illustrations by Dick Ellis

A limited edition of 200 of Dick Ellis' owl posters is available. Posters, signed and numbered, can be ordered for $25 each through: Roger Fliger Memorial Fund, Montana State Parks and Wildlife Interpretive Association, P.O. Box 9211; Helena, MT 59601. Funds will be used to develop a handicapped-accessible fishing pier in Roger Fliger's memory at Lake Elmo State Park in Billings.

• *The following eulogy was delivered by Jim Posewitz at Roger Fliger's funeral in Billings, Montana, July 6, 1992. They were co-workers, and they were long-time friends. We can think of no more fitting tribute.*—Ed.

On rare occasions, within the realm of human events, a genuinely supernatural event is experienced. These events seem to visit people whose knowledge, perception, and courage allow them to live with their minds open and their souls and spirits exposed. Roger Fliger was one of those people and he recently shared an experience he had at Plenty Coups State Monument in spring of 1991.

I will tell the story of that day for those who have not heard it.

In the spring of 1991, there was a Crow Indian cultural tour of the Plenty Coups State Monument. On the tour were students from the Little Bighorn College who were visiting sacred sites in the Pryor Mountains and surrounding areas.

The Plenty Coups monument was one of those sites and after a program in the museum, they all went to the Chief's home and then to the Medicine Spring. The spring

is a sacred place where Plenty Coups, in his vision, saw himself coming out of the earth. He later built his log home about 100 feet from the spring; it was built to the specifications revealed in his vision.

On this particular spring day, about 30 students were gathered; three Crow elders stood at the edge of the sacred spring and sang Chief Plenty Coups' song. As they began to sing, a mother great horned owl and two young birds walked out on an arched cottonwood branch and perched over the heads of the elders.

When Roger first told me this story, he said the hair on the back of his neck just stood up and that it was one of the most moving and profound experiences of his life.

The owl is an important bird in Native cultures and religion. For the Crow people, old man coyote is the guardian of the people during the day, and during the night it is the great horned owl. At times, the owl is viewed as the emissary from the spirit world. In some cultures and circumstances, the owl is believed to be the messenger of death.

I talked to Roger many times, but we never talked religion—his or mine. We did often talk about the natural world, cultural things we could learn from the Montana Indian tribes, and some of the mystical things they knew and we did not yet understand. When I learned of Roger's death, I went to the library and checked out a novel by Margaret Craven, "I Heard the Owl Call My Name." It was something to read while I contemplated the life and death of my friend. For me, it was a search for a way to think about Roger, his experiences in life, and the mystery to which he now has the answer.

The story was set among the coastal Indians of British Columbia. It involved a young white clergyman, Mark, who learned to listen, heard the owl call his name, and knew his own death was at hand. For those of us who appreciate the natural world like Roger did, the story offers comforting thought:

Thus he went, the air fresh from rain and filled with the sweet smell of fir, the sky blue and white with cloud. On the top of Whoop-Szo (the mountain) above the timber line, snow lay waiting for the warm suns of July to send it sliding downward with a rumble that would fill the village. And it seemed to Mark that death belonged here as the mountains belonged, as the eagle belonged, and the little scurrying squirrels that peered at him from the fir boughs. And it seemed to him that the ugliness of death was as unimportant here as the fir needles which made the path soft beneath his feet, or last year's windfall in the thick underbrush.

There was also a passage in the book that described how these people knew the world in which they lived. It is the kind of knowledge Roger had of the time and place we shared with him. The author put it this way:

The river is the village, and the black and white killer whales that herd the fish to the end of the inlet to better gobble them. The village is the salmon who comes up the river to spawn, the seal who follows the salmon and bites off his head....The village is the talking bird, the owl, who calls the name of the man who is going to die, and the silver-tipped grizzly who ambles into the village, and the little white speck that is the mountain goat on Whoop-Szo.

For Roger, Montana was the village. It is a place full of people he knew and loved, people who loved him. Our village is full of people that Roger touched when both he and they were young—people now grown, but grown with an appreciation of a world that Roger helped them see.

Roger's village was the foothills and the plains along with the Rocky Mountain mass that rises to the west. Roger's world was the sweeping churning mass of Arctic air that carried the snow geese south to their rendezvous with him in the stubble at Freezout. The sight of Roger, horribly battered from his own accident (Roger was badly injured in a car accident in the early 1970s), hobbling after a goose he crippled is an image burned permanently into my own mythology. The limp and hobble of the hunter invisible, masked by the courage and the heart of the man.

Roger's village was the sauger coming up the Tongue River after ice break-up, the trout of the Bighorn River, and the honkers finding the islands of the Yellowstone. Roger's village was all these things, and so much more.

So, Roger has now passed to the other world. It is hard to imagine him limping among the clouds of some cosmic celestial place. The mind, however, can see Roger in the spirit world described by Chief Seattle:

Our dead never forget this beautiful world that gave them being. They still love its winding rivers, its great mountains, and its sequestered vales, and they ever yearn in tenderest affection over the lonely-hearted living and often return to visit, guide, and comfort them.

Roger Fliger—what the man was and what the man meant—will always be with us. He will be with us in what he taught, the things he carved, the time he shared, the land he preserved, and what he contributed to the conservation of the wonderful wild world all people hold in common.

Roger will never leave his village, and when the raven in some wild place croaks to me in a strange way, I will say, "Roger—is that you?" ■

Roger R. Fliger

Roger R. Fliger, 59, supervisor of the Department of Fish, Wildlife & Parks Region Five (Billings) office, died July 1 after falling down the stairs at a home he was purchasing near Shepherd.

He joined the department in 1961 as an education representative in Helena. He was transferred to Great Falls as the district information officer in 1966. He had been supervisor of the Billings office since 1971.

He also had worked for the Iowa Conservation Department as a public relations officer and was on the staff of the Iowa Teachers Conservation Council.

Born in New Hampton, Iowa, on June 15, 1933, he was graduated from New Hampton High School in 1951. He served in the U.S. Army for 18 months. After his service time, he enrolled in the zoology program at the University of Iowa, earning his degree in 1959.

Roger was a champion of many outdoor causes and was known for his work to improve cooperation between sportsmen and landowners for the benefit of wildlife and those who enjoy it. He worked with the Billings Audubon chapter, Ducks Unlimited, the Billings Rod and Gun Club, the Montana Woodcarvers Association, and many other groups.

He is survived by a son, Mark, at home; a sister, Mrs. Marland (Jeananne) Johnson of Billings; and other out-of-state relatives.

CONTRIBUTORS

• According to his journal, **Jeff Herbert** first saw cranes in April 1971 on a backpacking trip in Yellowstone National Park. He described the pair as "two long-legged critters hopping about in a disjointed way, wings extended for good measure during the jumps. Heads tilted, then jerked back and forth, as if mechanical action is required to get the strange yodeling call out of their elongated bodies." A journal entry 20 years later—in September 1991—from the Blackfoot River Valley north of Helmville revealed a "Crane Bonanza"—a total count of 341 sandhills in this early fall staging. Turn to page 2 for more information about the biology and population management of these impressive birds. Herbert works for the Department of Fish, Wildlife & Parks Wildlife Division as the state waterfowl coordinator. He has represented Montana on the Pacific Flyway Technical Committee since 1987. In addition to his work with ducks, geese, and sandhill cranes, Herbert has also been involved with trumpeter swan projects.

• **Ron Aasheim** would be the first to admit that he's a hunting nut. (He even confesses to the certainty that his wife and boss would agree.) Small wonder that he has a long list of things that make hunting special to him—"secret ridges, favorite potholes and brush piles, puppies and their training, warm tents, rifles and shotguns passed down through generations. 'And Maybe Most of All...Memories.' " Taking two of his children hunting for the first time makes for memories that are hard to top (as the article notes, his third child—a 3-year-old—is already trying on her brother's orange vest). Some humor, some painful lessons, and the promise of many more adventures afield make for some enjoyable reading. When he is not hunting, Aasheim is the administrator of the department's Conservation Education Division. Turn to his article on page 8.

• Well-known outdoor writer Charley Waterman has called **Ben O. Williams** "America's leading Hun hunter." Williams, a retired teacher who lives outside Livingston, has been hunting Huns for more than 30 years behind a procession of Brittany spaniels. What better person to write an article titled "Bird Hunter's Autumn." Williams' photo essay captures the birds, the sky, and the autumn colors with tantalizing accuracy. His writing and photography have also appeared in *Gun Dog*, *Gray's Sporting Journal*, and others. Turn to page 15 and be prepared to point your bird hunting rig toward eastern Montana.

• Bighorn Canyon with its red-desert hues and its 1,000-foot cliffs rising sharply against the blue-gray backdrop of the Pryor Mountains doesn't seem like ideal bighorn sheep habitat. In fact, as **Kevin Coates** writes, "Some biologists found it difficult to believe that any self-respecting Rocky Mountain bighorn sheep would migrate to this desertlike habitat, let alone establish a growing herd." While working on this project as a graduate student at New Mexico State University from 1985 through 1989, Coates had the pleasure of seeing the population grow from a few wandering nomads to an established herd of more than 100 animals. Turn to page 19 for the story of "The Bighorns That Broke All the Rules." After completing his M.S. from New Mexico, Coates returned to Montana; he is a wildlife biologist with the Kootenai National Forest, stationed in Troy.

• Even though "Waterfowl Skies Over Freezout" is part of our "Lands Legacy" series, it really is in a class all by itself: It's the place where mallards, pintails, tundra swans, snow geese, and Canada geese make so much noise that it can only be called deafening. It's the place where the sky literally fills with waterfowl. Simply put, it's one of the most spectacular waterfowl hunting and wildlife viewing areas in Montana. Turn to page 27 and **Bruce Auchly's** Freezout portrait. (By the way, if you've ever wondered how it got its name, he gives you a choice of two or three explanations.) Auchly joined the department in December 1991 as the information officer in Great Falls. He came to Montana from the New Hampshire Game and Fish Department where he was a staff writer; before that he spent five years as a newspaper reporter in Missouri and Utah.

• You'll have to admit there's a certain appeal to wading in a trout-filled and crowd-free river surrounded by autumn color. In fact, **Fred Nelson** believes such autumn splendor is matched by few outdoor experiences. His favorite fall stretch is a 24-mile section of the Madison River upstream from Hebgen Reservoir. Even though he goes on to outline snow, ice, cold, morning temperatures in the teens, gloves on until mid-afternoon ("a little suffering will greatly improve your odds"), that's balanced by the possibility of some really big browns. If other kinds of trout are your passion, chunky rainbows from 16 to 20 inches are an added bonus. As a department fisheries biologist in the Bozeman office, Nelson also explains why wild trout management is now paying dividends on Hebgen Reservoir and the Madison. If you decide that you can endure a little cold for the lure of wild trout in wild country, you're ready to "Fall for the Madison." Turn to page 32.

• The fact that Montana is poor in snake species diversity probably consoles many people. However, the fact that the state boasts such an exotic reptile as a member of the boa family has to be at least interesting, even to someone with little love for snakes. Perhaps best known of the boas is the constrictor—you know, the giant serpent slithering through a steamy jungle. But as **Charles B. Place, III** writes, Montana's boa is much smaller—14 to 33 inches long full grown—and it prefers coniferous forests, damp grass meadows, and the sandy areas along rocky streams. It's sometimes called a "ball snake" because when it's first picked up or otherwise disturbed, it coils into a ball, with its head protected in the center. That leaves the tail on the outside to rivet your attention—which it certainly does because it looks almost exactly like the head. Place works in camera sales and service at The Dark Room in Missoula. Of the rubber boa, he notes, "They're not colorful, majestic, dangerous, or dynamic. Yet ever since I was a young teen-ager poring over wildlife field guides, I've wanted to find and observe a rubber boa in its natural habitat. Little did I imagine it would happen while rock climbing." To "Meet the Rubber Boa," turn to page 35.

• *MO* thanks the following photographers and artists for their contributions to this issue: **Kristi DuBois**, Bountiful, Utah; **Michael** and **Patsy Fribley**, Big Timber; **R.E. Ilg**, Cody, Wyoming; **Buck MacLaurin**, Helena; **LuRay Parker**, Wyoming Game and Fish Department; **George Schuyler**, Billings; **Bill Swanson** and **Barbara Thomas**, Kalispell; **Al Troth**, Dillon; and **Harold Umber**, North Dakota Game and Fish Department. Thanks also to the following contributors who work for the department: **Dick Ellis**, Miles City; and **Tom Warren**, Helena.

BILL SWANSON

Waterfowl Skies Over Freezout

by BRUCE AUCHLY

Dawn approaches on a crisp morning in late October, and a camouflaged hunter hunkers down in a crudely constructed blind of bulrush and cattails. As streaks of gold, orange, and red pierce the darkness, the noise from tens of thousands of geese, ducks, and swans builds until it's deafening.

Suddenly, waterfowl fill the sky: mallards, pintails, majestic tundra swans, white snow geese, and masked Canada geese. Birds that have been at rest throughout the night take off to feed in nearby grain fields and mix with new northern arrivals, dropping from the sky like so many fall leaves.

Welcome to Freezout Lake Wildlife Management Area (WMA), one of the most spectacular waterfowl hunting and wildlife viewing areas in Montana.

MICHAEL & PATSY FRIBLEY

"It's the damnedest thing you'll ever see," says waterfowl hunter Verle Rademacher. Rademacher, editor and publisher of The Meagher County News in White Sulphur Springs, says the lure of snow geese and swans has kept him driving the 270-mile trip every fall for nearly 20 years. "You can see the sky filled with snow geese in all directions of the compass," he marvels.

Located west of Great Falls, Freezout

Lake WMA lies between Fairfield and Choteau along Highway 89. The area comprises 11,349 acres: 4,872 deeded acres and 6,477 acres of Bureau of Land Management and Bureau of Reclamation land. The base elevation of Freezout Lake is 3,654 feet. The climate is semi-arid with average annual precipitation of 11.72 inches. Water in the ponds and lake at optimum levels totals about 7,000 acres.

To the west sits a series of buttes, running north to south. To the east rises the Fairfield Bench. The result is a natural alkaline basin that collects water draining from the surrounding area—and water has always attracted wildlife in the West. History records Brother Van, a Methodist missionary to the Blackfeet, telling of herds of bison watering at the alkali lake more than 100 years ago.

"Casual wildlife viewers and dedicated hunters alike can find a time of the year, a particular bird species, and a parcel of Freezout to enjoy--such as a golden October dawn, when waterfowl seem to fill every square inch of sky."

HISTORICAL SOURCES ALSO GIVE US SEVERAL ACCOUNTS of how Freezout got its name. One story goes that a number of soldiers were caught in a blizzard while coming through the basin. The area thereafter was termed "Freezout Flat." According to a second version, travelers spending long winter nights at a bleak stagecoach station in the area would while away the time playing a variation of poker called Freezout. A third yarn relates to homesteaders who couldn't make a go of it. The result was a "Freezout" for those folks.

Whatever the origin of its name, the natural sump would hold water but it would also regularly go dry. That changed with development of the Greenfield Irrigation District earlier this century. Water from irrigation ditches on the Fairfield Bench flowed into the basin, raising water levels to the point of flooding roads, railroad tracks, and farmland.

Recognizing the potential for waterfowl and public hunting opportunity, the Montana Fish & Game Commission entered an agreement to work jointly with the federal Bureau of Reclamation to control water levels through development and construction of a waterfowl management area. The department began acquiring the land in 1953, completing the acquisition by 1967. An early and strong proponent of Freezout was Wynn Freeman, biologist and administrator of the Game Management Division. To a large extent, Freezout Lake WMA exists today because of the efforts of Freeman, who passed away in September 1978. A plaque in front of the office at Freezout commemorates his achievement.

"He was a dedicated biologist," recalls Kerry Constan, a department wildlife biologist in Great Falls who knew Freeman. "And he was a real fighter for wildlife and habitat."

When development at Freezout began, the primary concern was to stabilize water levels. An outlet ditch was constructed to Priest Lake, a natural lake 7.5 miles north. That allowed excess water to drain from Freezout to Priest Lake. From there, a series of underground culverts and pipes release the water into the Teton River. Next, construction began on six separate marsh units interconnected by dikes with water control structures. Water coming into the system from the irrigation district can be diverted through the ponds, starting with Pond One and eventually flowing into the management area's main lake. Islands were constructed to provide waterfowl nesting and loafing sites. A variety of tall grasses and legumes was established to provide dense nesting cover. Shelterbelts were established at suitable sites to provide cover for upland game birds.

Because the area attracted large numbers of mallards and pintails, early in the project department biologists were concerned about waterfowl depredation on grain fields on the Fairfield Bench, especially in late summer and early fall when grain crops were lying in swaths. To alleviate this problem, the department converted much of the agricultural lands it had acquired for wetland development into barley and winter wheat, to lure ducks and geese from surrounding privately owned lands. This practice continued until the late 1970s, when duck populations began to decline throughout North America. As late summer and early fall concentrations of field-feeding mallards and pintails decreased in the Freezout area, so did the need for annual lure crops.

As a consequence, the department converted most of the wheat and barley fields into stands of dense nesting cover, a mixture of tall and intermediate wheatgrass, alfalfa, and yellow sweet clover, to increase waterfowl nesting opportunity and success. These stands are similar to some of the mixtures used in the present day federal Conservation Reserve Program.

Dense nesting cover increases nesting opportunity and success for waterfowl and upland game birds by providing cover and concealment. That's especially important for early nesters, such as mallards and pintails. Planting dense cover in blocks rather than narrow strips decreases the number of nests destroyed by predators. Nests are scattered and more difficult for predators like the striped skunk to find. Overhead cover also makes the hen and nest more difficult for avian predators, such as Cali-

KRISTI DUBOIS

Muskrat

KRISTI DUBOIS

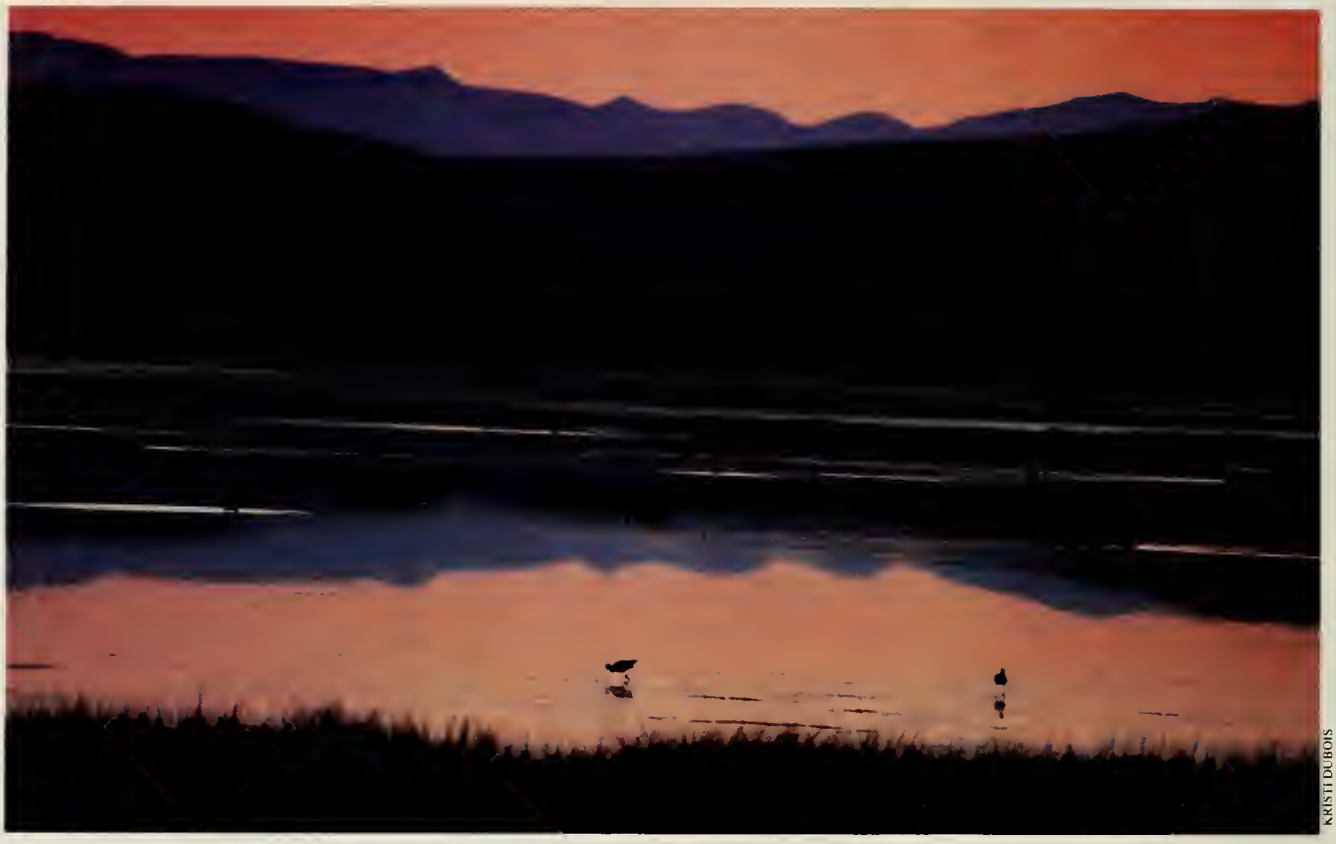
Damselfly

MICHAEL & PATSY PRIBLEY

American avocet

KRISTI DUBOIS

Forster's terns



KRISTI DUBOIS

Freezout Lake's 11,000-plus acres of marshland and upland cover provide nesting habitat for dozens of waterfowl and shorebird species, such as the avocets in the foreground.

fornia gulls, to see.

Although planted primarily for waterfowl production, dense nesting cover provides habitat for other wildlife, both game and nongame. For example, pheasants find it particularly attractive, especially if the cover is near food, such as wheat or barley. Pheasant populations at Freezout have experienced a dramatic increase since establishment of dense nesting cover. That's no secret to the large number of hunters who head to Freezout during the pheasant season.

Stands of dense nesting cover do not have to be reseeded annually like a grain crop, but they must be rejuvenated periodically to remain productive for wildlife. After a period of several years, the accumulation of dead plant material and litter can stifle current plant growth and present a barrier to upland game bird and waterfowl movements.

Methods employed at Freezout to rejuvenate stands of dense nesting cover include haying, mowing, and burning. The most common practice is periodic haying by a private contractor who removes the vegetation or binds it into large round or square bales for department use as Canada goose nesting structures. The coarse stems of tall and intermediate wheatgrass are more durable than the straw bales commonly used on other waterfowl management areas. Canada geese prefer some type of island, whether an actual island or a hay bale surrounded by water, to feel secure from predators when nesting.

TO FURTHER INCREASE NUMBERS OF NESTING WATERFOWL, Ducks Unlimited engineers in 1989 designed and constructed a level ditch system, which drains excess water from Pond Five and floods approximately 60 acres of shallow potholes. "Our main objective was to create additional breeding pair habitat," says Rich Warhurst, regional biological supervisor for Ducks Unlimited.

The ditch runs 1.35 miles with a bend every 75 feet. "Research by DU Canada has shown that such a formula will bring in 33 additional breeding pairs of waterfowl per mile," Warhurst says. "Basically, ducks don't like to set up house too close to one another. As long as the birds are out of sight of one another, they will nest.

"The whole scope of the project was to increase breeding pair numbers around Freezout Lake," Warhurst says. Total cost was $60,000.

DU engineers also designed a solar-powered barrier fence to exclude mammalian predators. They installed it across a large peninsula heavily used by nesting waterfowl, just south of the level ditch and pothole area. It created an additional 54 acres of secure nesting habitat for waterfowl and shorebirds.

Since it takes a keen eye to pick out subtle management practices like these, it is unknown whether these improvements are noticed or appreciated by hunters and bird-watchers. What is not up for debate is the tremendous wildlife resource that exists at Freezout. Casual wildlife viewers and dedicated hunters alike can find a time of the year, a particular bird species, and a parcel of Freezout to enjoy—such as a golden, October dawn, when waterfowl seem to fill every square inch of sky.

"You have to live it to experience what it's like," says veteran waterfowl hunter Rademacher. ■

DAVE BOOKS

The primary goal of Freezout Lake WMA is to provide habitat for waterfowl and upland game bird production and public hunting and viewing opportunity.

Freezout Lake Wildlife Management Area

Location: Teton County in north central Montana 40 miles west of Great Falls along U.S. Highway 89 between Fairfield and Choteau.

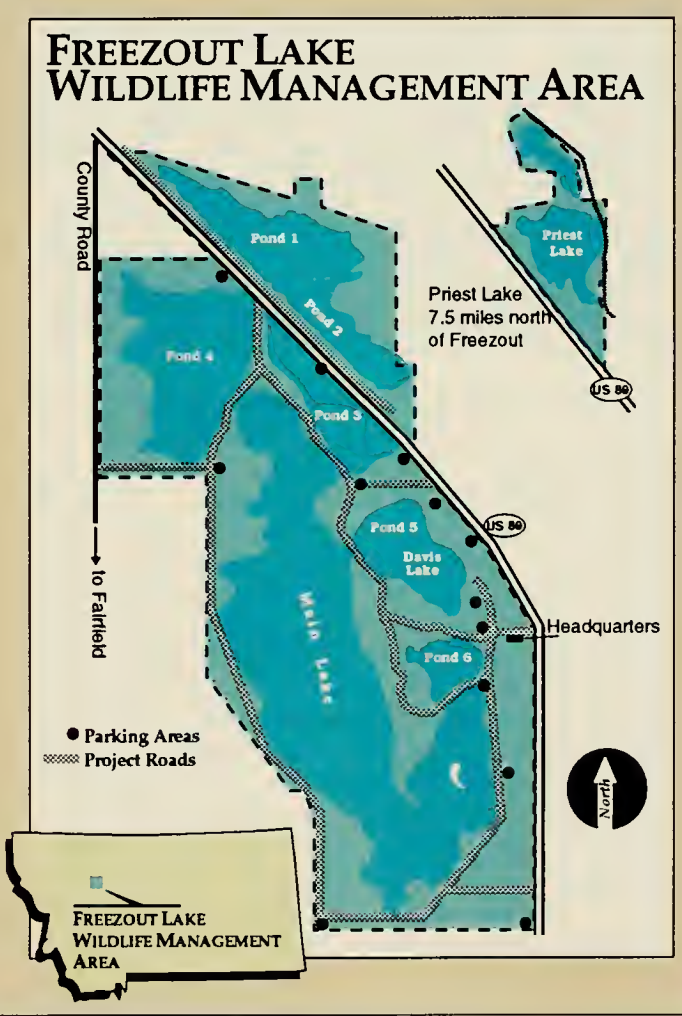
Size: 11,349 acres.

Access: Access to area from U.S. Highway 89, or Frontage Road from Fairfield, to various turnouts and parking areas year-round; interior roads open to vehicles March 15 to the beginning of waterfowl season annually; dike system roads closed to vehicles.

Management goals: To provide habitat for waterfowl and upland game bird production and public hunting and viewing opportunity.

Hunting opportunities: General public hunting for waterfowl and upland game birds. Tundra swan hunting by permit only. Muskrat trapping available for successful applicants.

Wildlife viewing: Year-round opportunity for viewing wildlife, including upland game birds and raptors in winter, waterfowl migrations in spring and fall, and waterfowl and shorebirds in summer.



FALL for the MADISON

by FRED NELSON

By the time fall arrives in Montana, most of the summer tourists have long since left for home. The gun season for grouse and Huns has been open for over two weeks, bighorns are being hunted in the high peaks, and a few archery enthusiasts have already bagged their deer or elk. Fishing gear is stowed in an out-of-the-way corner of the basement and evenings once spent tinkering with tackle and tying flies for the next morning's outing are now devoted to preparing for the upcoming rifle season, just a month away. In Montana, fall is a time traditionally reserved for hunting.

For most people, that is. Come fall, I prefer the rivers. Crisp, subfreezing mornings and a dusting of snow in the mountains rekindle my enthusiasm for trout fishing. The prospect of wading a trout-filled and crowd-free river decked out in its autumn splendor is matched by few outdoor experiences. I can easily overlook occasional discomfort brought on by the unpredictable weather and concentrate on the pleasure of the experience, knowing there will be many hard winter days ahead when I'll be thankful for the season's final days on the river.

I equate fall trout fishing with the big brown trout that inhabit the large reservoirs of the upper Missouri Basin. Gullibility is not a trait of these fish. Unlike their less sophisticated cousins, brown trout are often a difficult quarry to fool with hook and line. In fall, reproductive urges force the big browns from their reservoir sanctuaries into the moving water of feeder streams where they spawn and where anglers wait with an enticing assortment of flies, lures, and baits. September, October, and November are the months the wading angler has the best opportunity to hook that once-in-a-lifetime trophy brown.

MY FAVORITE FALL FISHERY, one that has improved in recent years, is the 24-mile section of the Madison River upstream from Hebgen Reservoir. All but the lower mile of river is within Yellowstone National Park. Reservoir brown trout begin entering the Madison in late August and early September and probably remain well into December, long after Yellowstone Park's fishing season closes on the first Sunday in November. The season for the one-mile stretch in Montana ends November 30. However, snow, ice, and cold commonly end the fishing for all but the real die-hards long before the official closing. Even on the more pleasant days, anglers often endure morning temperatures in the

September, October, and November offer the wading angler an excellent chance of catching a big brown trout.

BUCK MACLAURIN

BARBARA THOMAS

teens before the warmth of the afternoon sun allows gloves to be shed. At an elevation of 6,700 feet, even the best of fall days can have their trying moments.

The Madison occasionally yields browns weighing over 10 pounds. Browns of 16 and 22 pounds, netted in Hebgen Reservoir by Montana Department of Fish, Wildlife & Parks (FW&P) biologists during population surveys, attest to the system's lunker potential. While big fish are a possibility, 15- to 19-inchers are the mainstay of the fall brown trout fishery.

The Madison demands good technique with the fly. (The river in Yellowstone National Park is restricted to flies only; bait, lures, and flies are legal in Montana's portion above Hebgen Reservoir. A free fishing permit is required for anglers entering the park.) Early morning and evening seem to be the best time of day to catch the browns when they're "on the bite." Anglers shouldn't limit themselves to midday fishing under a warm, bright sun. The Madison is a river where a little suffering will greatly improve your odds.

Although fall-running browns are the big draw on the Madison, chunky reservoir rainbow trout from 16 to 20 inches are an added, and not unexpected, bonus. These hard-fighting rainbows, which accompany the spawning browns into the Madison, often make up the bulk of the catch on fall days. What causes the rainbows' fall sojourn in the Madison River? Are they simply there to feed on the eggs of the brown trout spawners, or are they early migrants that overwinter in the river before spawning in spring—the season normally associated with rainbow trout reproduction?

According to recent FW&P findings, neither theory applies. Evidence points to the fall run being a distinct, early spawning stock genetically adapted to the warm flows of the Madison River and its two geothermally influenced tributaries, the Firehole and Gibbon rivers. The wild rainbows of the heat-stressed Firehole River—a river where summer water temperatures routinely reach the low 80s—are November-December spawners, a genetically programmed trait seemingly shared by the Madison's fish. Hebgen's other spawning tributaries, all cold-water streams strongly influenced by snowmelt, support spring-running rainbows that spawn in May and as late as mid-June in the colder waters.

The increasing number of rainbow spawners throughout the Hebgen Reservoir system, including the Madison, reflects the ongoing build-up of the reservoir's wild rainbow population. This

build-up began in the early 1980s, when FW&P began to manage the reservoir exclusively for wild trout strains. Despite the stocking of millions of rainbows into Hebgen before the 1980s, their numbers remained low. These early stockers were a short-lived, domesticated rainbow strain that survived poorly in the wild and also suppressed the reservoir's wild trout stocks. When these plants were discontinued 10 years ago, the wild rainbows began a slow and steady recovery. Now, rainbows likely outnumber the reservoir brown trout, whose population has remained relatively stable for the past 20 years. The ultimate goal of the wild trout program, anticipated to be met in 1993, is to sustain reservoir trout numbers solely through natural reproduction in the wild. Until then, the rainbow population is being augmented with wild trout raised from eggs collected at FW&P's spawning trap and egg-taking station on Willow Creek, a spawning tributary to Harrison Reservoir west of Bozeman. Other wild trout sources have also been used.

THE SWITCH TO WILD TROUT MANAGEMENT IS NOW PAYING DIVIDENDS on Hebgen Reservoir and the Madison River. The Madison's unique fall rainbow run is prospering and anglers are beginning to focus their attention on it. Wild rainbows are now a prominent and growing component of the Madison's fall fishery. These days, anglers can wonder if the next fish to their fly will be a 10-pound brown, a feisty rainbow, or a chunky reservoir whitefish, also in the river to spawn.

The Madison above Hebgen is made for fly fishermen. The meadows along the river's banks offer few obstacles to casting, and the river channel, with its sand and fine gravel bottom covered in places with mats of aquatic vegetation, is a joy to wade—unlike the river segment below Quake Lake, where instream cobble fields and swift currents often discourage the strongest waders. Frigid water temperatures rarely pose a problem, even in fall, since warm geothermal inflows have a moderating influence.

The river is just small enough to cross comfortably at riffles and tailouts without risking a dunking, but large enough to provide an abundance of deep, fish-holding lairs, most reachable with a fly. There are few stretches where a well-presented fly can't be drifted in front of the trouts' eyeballs. A fly caster can't ask for much more.

Solitude is sometimes difficult to find on the Madison when fall weekends are warm and sunny. On these more pleasant days, roadside runs will be occupied by anglers, some from as far away as Utah, Colorado, and California. Short walks of a half-mile or so will generally lead to lightly fished and productive water. Then again, some Madison River regulars thrive on the camaraderie of small groups of anglers who gather at the river's famed runs, swapping fishing stories and embellishing past exaggerations.

THE PRIME MEETING PLACE is Barn Hole #2. Hole #2 sits by a small parking lot at the end of a well-traveled road accessing a popular area known as the "Barns." A large piece of driftwood dubbed "the marlin" is the hole's focal point. Here, anglers sit, chat, and drink coffee and other stimulants while waiting their turn to fish the hallowed (and highly productive) water. The more comfort-conscious even bring their lawn chairs. While anglers wait in line to fish Hole #2, vast stretches of good water, both upstream and down, stand vacant.

Even more puzzling is the prescribed manner in which Hole #2 must be fished; one starts at the head and works downstream, followed by the next in line. Back in less crowded times and before I knew better, I regularly crossed the shallows at the hole's tailout to fish its far side, casting weighted nymphs upstream into the heavy water next to the sharply sloping bank. Technically, there's no doubt in my mind that Hole #2 fishes its best from this position. However, to do so now invokes the wrath of the anglers lined up on the opposite side. Bodily harm and flattened tires are potential punishments awaiting those who disregard protocol. Since bucking tradition is a losing proposition, my advice is to enjoy the spectacle for a few moments, then walk downriver to where the fishing is less troublesome and just as productive.

The bigger Madison browns are often taken on streamer patterns—a black woolly bugger is one of my favorites and an excellent choice with which to begin a fall morning. All of my early successes on the river were with traditional streamers, like the muddler minnow, multi-colored marabou muddler, and light spruce, fished with a short, heavy, level leader of three or four feet on a sinking or sink-tip fly line. These streamers still have their productive moments, particularly under heavy overcast and during the evening twilight.

Over the years, the Madison has educated me to the merits of weighted nymphs fished with a floating fly line and a nine-foot or longer 3X leader, topped off with a strike indicator—an essential ingredient formerly known as a bobber before reaching the hands of fly anglers. I prefer to fish a pair of weighted nymphs, with the smaller one tied to a three-inch dropper about two feet up from the bottom fly. Frequent leader snarls are the one pitfall of my two-fly rig. The chance for a double hookup—a pitiful chance at best—coupled with extraordinary patience allows me to tolerate the seemingly endless hassle of untangling flies and leader.

Once, I actually scored a double on the Madison—where else but along the far bank of Hole #2? I was convinced a big, bottom-hugging brown had inhaled one of my two weighted gray nymphs. After a hard and impressive struggle, a pair of very large reservoir whitefish revealed themselves. That long-ago quasi-victory—one unlikely to be repeated—continues to sustain my enthusiasm for the two-fly approach.

Whether you ply the Madison with one fly or two, nymphing is always a sound strategy. Prince nymphs or big stonefly imitations are commonly used patterns. And don't overlook the smaller nymphs, like a No. 16 flashback hare's ear. Soft-hackle flies are also effective at times. "Small fly/big fish" is an adage worth heeding when fishing the Madison.

Wild trout in wild country inhabited by wild creatures provide the impetus for my fall ventures to the Madison River. Yet, fish hooked and landed, even big, wild browns, are never a full measure of a fall day spent on the river. Gone are the traffic jams that characterize a Yellowstone summer. The landscape is unhampered by hordes of visitors. Nature continually provides distractions from the business at hand. Hours of methodical casting are regularly interrupted by sightings of elk, bison, coyotes, and Canada geese. Hungry mink prowl the river's edge and feeding dippers bob in the riffles searching for nymphs and other aquatic larvae. Less common wildlife like river otters, moose, bald eagles, ospreys, and rare trumpeter swans are occasionally sighted by lucky anglers. Lunch breaks at riverside picnic areas are rarely without the company of a mountain chickadee, a Steller's jay, or a begging gray jay or two.

Fall fishing is never bad on the Madison. ■

MEET THE RUBBER BOA

story and photos by
CHARLES B. PLACE, III

Mention boa constrictors and most people—after they say to themselves, "Snakes! Forget it!!"—probably imagine giant serpents slithering through steamy jungles. Others might visualize inflated, languid, coiled snakes stuffed into claustrophobic glass cages at a pet shop.

Few would think of the wilds of Montana or of a small snake native to its forested mountains.

Yet, Montana is, indeed, home to a member of the Boidae family.

Meet the rubber boa (*Charina bottae*), one of two boa species indigenous to the United States. How strange but fitting that Montana, poor in snake species diversity (only eight different species are found within its borders), should be able to boast such an exotic reptile.

The other U.S. boa, by the way, is the rosy boa and its three subspecies; they are found in southern California and southwestern Arizona and southward

into Mexico.

But back to the rubber boa. I remember the first one I had the good fortune to find roaming free.

Several friends and I were finishing a long day of climbing a rock face in Blodgett Creek Canyon in the Bitterroot Mountains near Hamilton, Montana.

"On rappel," I yelled to my partners more than 100 feet below. I re-checked carabiners, knots, the snugness of my climbing harness, and the twists of rope woven through my Figure "8" braking device. Leaning back into space, bracing the pull of gravity against the anchor of nylon webbing strapped around a large ponderosa pine, I stepped over the edge and began sliding down the rope past a vertical rock wall.

After a short distance, I came to rest on a small platform. I had to shuffle my feet to keep from dropping onto something that looked like a short length of shiny, olive-green rope.

It was a snake! "Hey guys, there's a rubber boa up here!" They weren't impressed, but I was.

One of two boa species indigenous to the United States, the rubber boa is so named because of its rubbery appearance and feel.

How did that snake get there? Why was he there? I stopped thinking like a tired rock climber and began looking at my rappel route through the eyes of a predator.

The upper portion of the rock face was scarred by deep vertical cracks and sparingly terraced by narrow ledges, some of them six to eight inches wide. Some ledges extended far left and right to the edges of the wall, where they met with the less vertical ground of the mountainside. Others were small platforms, isolated except for their connections with the vertical cracks.

Many seasons of shed pine needles and wind-blown debris lay heaped on the rock shelves and wedged into the nooks and crannies of the crevices. Lichen and moss grew there, as did bunches of grasses and spindly, thorn-covered stems of shrubbery. Here and there, wisps of pine trees reached up from their risky purchase in the thin layer of duff and out from cracks in the rock.

For me, this place was inaccessible without using a rope. But for the local wildlife, this latticework of ledges and cracks was nothing more than an extremely narrowed and elongated continuation of the surrounding woodland habitat.

Centipedes, spiders, and grasshoppers lived here, finding food and cover. Probably lizards, too, eating the grasshoppers. And mice and shrews would have no difficulty patrolling these ribbons of "forest" as part of their domain. Perhaps some species of smaller bird secreted nests deep in the clumps of grass. And obviously, snakes traveled these corridors, searching for their prey: mice, lizards, and birds.

THE RUBBER BOA IS SO NAMED because of its rubbery appearance and feel. Its scales are small, smooth, and fine, and its body is exceedingly supple. It bears no markings but is of a uniform color. Olive-green or brown predominates, with field guides listing reddish-brown and tan to chocolate brown as local and individual variations. The belly is a pleasing yellowish white.

Rubber boas are residents of coniferous forests, damp grass meadows, and the sandy areas along rocky streams. Inside Montana, they generally occur in the western third of the state. Outside of Montana, the rubber boa ranges north into Canada, west to the coast, and south into Utah and California. They live from sea level to elevations approaching 10,000 feet.

There are a number of reasons rubber boas are seldom seen, such as limited population, their small size (14 to 33 inches long as adults), and their nocturnal habits (although my own sightings and those of friends have occurred during the day).

Furthermore, they are burrowers. And they are slow. They combine these two characteristics into something of a hypnotizing disappearing act. One second they are there, and the next they are gone.

I have watched with appreciation and amazement many times as one would seemingly melt into the ground litter of dried pine needles, other leaves, and broken twigs. Deliberately and methodically and in no apparent hurry, it roots and pushes its head beneath the dead leaves and matted grass and, without any obvious wiggling or other movement, simply flows out of sight.

Even when fully exposed, slowness is key to why they remain undiscovered. Remaining motionless is a common first line of defense for wildlife, but rubber boas carry it to extremes. Usually, snakes race for cover or jerk themselves into an alert, defensive posture when discovery looms. In fact, most of us first spot snakes because the snake has moved or is moving. But rubber boas continue to lie there unaffected, or eventually crawl away at an unalarmed pace.

When first picked up or otherwise disturbed, this remarkably docile snake coils into a ball, with its head protected in the center (they are sometimes called "ball snakes"). This leaves the tail on the outside to rivet your attention, which it is certain to

do, since it looks almost exactly like the head.

The tail is prehensile, enabling strong, delicate movement and control. Yet, at the same time, it is exceptionally short and stubby. It is quite hard at the end because the last vertebrae are fused. This results in the tail—at least in terms of shape, size, posture, and uniform color—looking almost exactly like the head.

Except, of course, for the lack of eyes. But the eyes of the rubber boa are notably small. Even when one looks at the head, the eyes easily go unnoticed. Since snakes do not have eyelids, small eyes prove beneficial because it means less surface area exposed to possible damage during burrowing than would occur if the eyes were larger.

WATCHING A RUBBER BOA disengage itself from its protective ball is an interesting experience. With its tail prominently displayed, the snake begins crawling away from the coil, often burrowing into the ground litter directly beneath itself. Surreptitiously, the loops of body fade away, in order, from head to tail. Slowly, the last coil disappears, the tail falls in line, and the snake is gone.

Rubber boas, like other boas and unlike other snakes, have anal spurs, one on either side of the vent. Well developed in the males, they are smaller and usually hidden in the females. Unfortunately, the only rubber boa I have photographed was female and she did not show spurs. However, I have caught and released a male, and I found the spurs well developed and easy to see when I looked at his belly. I would describe the spurs as resembling tiny claws or hooks.

The Audubon field guide reports the male rosy boa uses its spurs to stroke the female during courtship, but no reference is made to such use by the rubber boa. Scientists classify these spurs as vestiges of hind limbs.

Rubber boas are constrictors, using the powerful coils of their bodies to subdue and suffocate prey when necessary. Besides lizards, birds, and small mammals, they have been known to feed on salamanders and other snakes. Peterson's field guide notes they use their tail in a "striking" motion to keep parent mice at bay while consuming the young mice in the nest.

The eyes of the rubber boa are notably small, and the head and tail look remarkably alike. As this snake begins to uncoil, the head is in the lower right portion of the photo.

Young are born live, as opposed to hatching from eggs, in August or September. Broods number from two to eight young, each about seven inches long.

Interestingly, boas are classified as the most primitive of living snakes, illustrated by the existence of two well-developed lungs. In higher snakes, the second lung is shrunken and non-functioning or lacking entirely.

Happening upon one of these secretive and harmless snakes is a rare experience, which is the best reason for capturing the enjoyment of it in observation and memory and not in capturing the animal. Removing or transplanting a boa is an unnecessary impact on the species' population.

The next time you're in the summer woods and you hear a quiet rustling beneath the leaves, you may just want to glance in that direction. Perhaps you'll catch a glimpse of a rubber boa gliding along its burrowing way. ■

Three Men

George Grant Bud Lilly Dan Bailey

Big Hole Madison Yellowstone

Three Rivers

A Montana Department of Fish, Wildlife & Parks Documentary

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